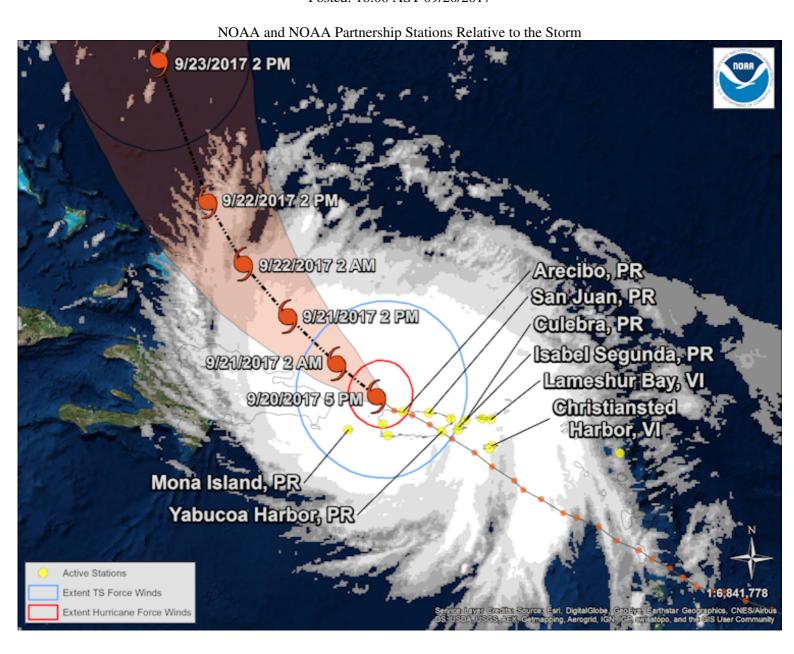


Center for
Operational Oceanographic
Products and Services
CO-OPS

Hurricane MARIA QuickLook Posted: 18:00 AST 09/20/2017



Storm Analysis

As of 9/20/2017 18:00 AST, water levels on Mona Island continue to rise and are currently 2.0 feet above normal tide levels. Water levels within the U.S. Virgin Islands, Culebra Island, Vieques Island, and Puerto Rico have fallen to normal tide levels with the passing of Hurricane Maria's center of circulation. However, water levels at Yabucoa Harbor remain elevated by 0.9 feet above normal tide levels. Water level and wind data transmissions have stopped at several water level stations within Puerto Rico and the U.S. Virgin Islands due to the effects of Hurricane Maria.

Most anemometers within the region have been damaged. Wind speeds at Arecibo are around 40 knots with gusts to 60 knots. Barometric pressure is rising at most locations, with the exception of Mona Island, as Hurricane Maria continues to move northwest.

Water Level and Meteorological plots available below are updated automatically. A line denoting <u>Mean Higher High</u> <u>Water</u> (MHHW) is displayed to provide an approximate indication of when flooding inundation may occur.

For additional data, please see the <u>Center for Operational Oceanographic Products & Services</u> website. For more information or archived products and reports, please see the <u>Storm OuickLook</u> Homepage.

Analyst: CMF

SELECT NATIONAL HURRICANE CENTER ADVISORY INFORMATION:

Hurricane Maria Advisory Number 19

NWS National Hurricane Center Miami FL AL152017

500 PM AST Wed Sep 20 2017

... CATASTROPHIC FLASH FLOODING OCCURRING OVER PORTIONS OF PUERTO RICO...

...CONDITIONS NOW DETERIORATING OVER EASTERN DOMINICAN REPUBLIC...

SUMMARY OF 500 PM AST...2100 UTC...INFORMATION

LOCATION...18.8N 67.3W

ABOUT 25 MI...45 KM NNW OF AGUADILLA PUERTO RICO

ABOUT 75 MI...120 KM E OF PUNTA CANA DOMINICAN REPUBLIC

MAXIMUM SUSTAINED WINDS...110 MPH...175 KM/H

PRESENT MOVEMENT...NW OR 305 DEGREES AT 12 MPH...19 KM/H

MINIMUM CENTRAL PRESSURE...957 MB...28.26 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY:

The Hurricane Warning for the U.S. Virgin Islands has been discontinued.

The government of Antigua and Barbuda has discontinued the Hurricane Warning for the British Virgin Islands.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Hurricane Warning is in effect for...

- * Puerto Rico, Culebra, and Viegues
- * Dominican Republic from Cabo Engano to Puerto Plata
- * Turks and Caicos Islands and the Southeastern Bahamas

A Tropical Storm Warning is in effect for...

* Dominican Republic west of Puerto Plata to the northern border of the Dominican Republic and Haiti

* Dominican Republic west of Cabo Engano to Punta Palenque

A Hurricane Watch is in effect for...

* Dominican Republic from Isla Saona to Cabo Engano

A Hurricane Warning means that hurricane conditions are expected somewhere within the warning area. Preparations to protect life and property should be rushed to completion.

A Tropical Storm Warning means that tropical storm conditions are expected somewhere within the warning area.

A Hurricane Watch means that hurricane conditions are possible within the watch area. A watch is typically issued 48 hours before the anticipated first occurrence of tropical-storm-force winds, conditions that make outside preparations difficult or dangerous.

Interests elsewhere in Hispaniola and the Bahamas should monitor the progress of Maria.

For storm information specific to your area in the United States, including possible inland watches and warnings, please monitor products issued by your local National Weather Service forecast office. For storm information specific to your area outside the United States, please monitor products issued by your national meteorological service.

DISCUSSION AND 48-HOUR OUTLOOK

At 500 PM AST (2100 UTC), the eye of Hurricane Maria was located near latitude 18.8 North, longitude 67.3 West. Maria is moving toward the northwest near 12 mph (19 km/h), and this general motion with a decrease in forward speed is expected through Thursday night. A turn toward the north-northwest is forecast on Friday. On the forecast track, the center of Maria will continue to move away from the northwestern coast of Puerto Rico this evening. The center will then pass offshore of the northeastern coast of the Dominican Republic tonight and Thursday and then move near the Turks and Caicos Islands and southeastern Bahamas Thursday night and Friday.

Data from an Air Force Reserve Hurricane Hunter aircraft indicate that maximum sustained winds are near 110 mph (175 km/h) with highergusts. Some strengthening is forecast during the next day or two, and Maria could regain major hurricane status by Thursday.

Hurricane-force winds extend outward up to 60 miles (95 km) from the center, and tropical-storm-force winds extend outward up to 150 miles (240 km).

The minimum central pressure based on data from the Air Force aircraft is 957 mb (28.26 inches).

HAZARDS AFFECTING LAND

WIND: Hurricane and tropical storm conditions are still occurring over portions of Puerto Rico. Tropical storm conditions are spreading across the warning areas in the Dominican Republic, and hurricane conditions should start in the hurricane warning area tonight. Tropical storm conditions are expected to begin in the Turks and Caicos Islands and the southeastern Bahamas on Thursday, with hurricane conditions starting Thursday night.

STORM SURGE: The combination of a dangerous storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters moving inland from the shoreline. The water is expected to reach the following heights above ground if the peak surge occurs at the time of high tide...

Puerto Rico...3 to 5 ft

The deepest water will occur along the immediate coast in areas of onshore wind over western portions of Puerto Rico, where the surge will be accompanied by large and destructive waves. Surge-related flooding depends on the relative timing of the surge and the tidal cycle, and can vary greatly over short distances. For information specific to your area, please see products issued by your local National Weather Service forecast office.

A dangerous storm surge accompanied by large and destructive waves will raise water levels by as much as 4 to 6 feet above normal tide levels in the hurricane warning area in the Dominican Republic, and 1 to 3 ft elsewhere along the northern coasts of the Dominican Republic and Haiti.

A dangerous storm surge accompanied by large and destructive waves will raise water levels by as much as 9 to 12 feet above normal tide levels within the hurricane warning area of the southeastern Bahamas and the Turks and Caicos Islands.

RAINFALL: Maria is expected to produce the following rainfall totals through Friday:

Puerto Rico...20 to 25 inches, isolated 35 inches

U.S. and British Virgin Islands...additional 3 to 5 inches

Northern and eastern Dominican Republic, Turks and Caicos and southeast Bahamas...8 to 16 inches, isolated 20 inches

Northern Haiti...2 to 4 inches

Rainfall on these islands will cause life-threatening flash floods and mudslides

SURF: Swells generated by Maria are affecting the Leeward Islands, Puerto Rico, and the Virgin Islands. These swells will begin affecting the northern coast of Hispaniola, the Turks and Caicos Islands, and the Southeastern Bahamas during the next day or two. These swells are likely to cause life-threatening surf and rip current conditions. Please consult products from your local weather office.

NEXT ADVISORY

Next intermediate advisory at 800 PM AST.

Next complete advisory at 1100 PM AST.

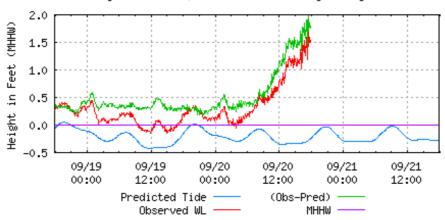
Forecaster Berg

For the purpose of timely release, data contained within this QuickLook have undergone a "limited" NOS Quality Assurance/Control; however, the data have not yet undergone final verification. All data subject to NOS verification.

Jump to: Mona Island - Water Level, Mona Island - Barometric, Yabucoa Harbor - Water Level, Arecibo - Water Level, Arecibo - Barometric, San Juan, La Puntilla, San Juan Bay - Water Level, San Juan, La Puntilla, San Juan Bay - Barometric, Culebra - Water Level, Culebra - Barometric, Isabel Segunda, Vieques Island - Water Level, Lameshur Bay, St John - Water Level, Lameshur Bay, St John - Barometric, Christiansted Harbor, St Croix - Water Level, Christiansted Harbor, St Croix - Barometric

NOAA/NOS/CO-OPS 9759938 Mona Island, PR

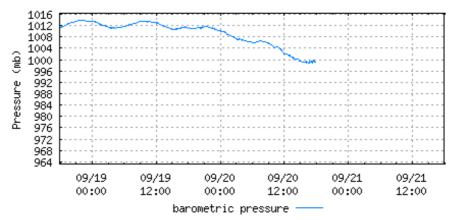
Preliminary Water Level, relative to Mean Higher High Water(MHHW)



Last Observed Sample: 09/20/2017 17:48 (AST). Data relative to MHHW Observed: 1.50 ft. Predicted: -0.25 ft. Residual: 1.75 ft. Historical Maximum Water Level: Dec 23 2010, 1.24 ft. Next High Tide: 09/20/2017 20:41 (AST), -0.03 ft.

NOAA/NOS/CO-OPS 9759938 Mona Island, PR

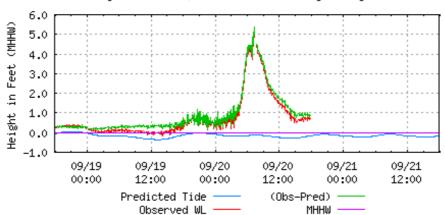
Barometric Pressure



Last Observed Sample: 09/20/2017 17:48 (AST)
Barometric Pressure: 999.3 mb

NOAA/NOS/CO-OPS 9754228 Yabucoa Harbor, PR

Preliminary Water Level, relative to Mean Higher High Water(MHHW)



Last Observed Sample: 09/20/2017 17:48 (AST). Data relative to MHHW Observed: 0.70 ft. Predicted: -0.17 ft. Residual: 0.87 ft.

Historical Maximum Water Level: n/a Next High Tide: 09/20/2017 20:27 (AST), -0.08 ft.

NOAA/NOS/CO-OPS 9757809 Arecibo, PR

Preliminary Water Level, relative to Mean Higher High Water(MHHW) 2.5 Height in Feet (MHHW) 2.0 1.5 1.0 0.5 0.0 -0.5-1.0 -1.5-2.0 09/19 09/19 09/20 09/21 09/20 09/21 12:00 00:00 12:00 12:00 00:00 00:00 Predicted Tide (Obs-Pred) MHHW Observed WL

Last Observed Sample: 09/20/2017 17:48 (AST). Data relative to MHHW Observed: -0.26 ft. Predicted: -0.74 ft. Residual: 0.48 ft. Historical Maximum Water Level: Oct 8 2010, 0.90 ft.

Next High Tide: 09/20/2017 20:51 (AST), -0.03 ft.

NOAA/NOS/CO-OPS 9757809 Arecibo, PR

Wind Speed / Gusts / Direction 360 90 80 270 direction (true) speed (knots) 70 60 50 180 40 30 90 20 10 09/21 09/19 09/20 09/21 00:00 12:00 00:00 12:00 00:00 12:00

Last Observed Sample: 09/20/2017 17:48 (AST) Wind Speed: 36 knots Gusts: 47 knots Direction: 170° T

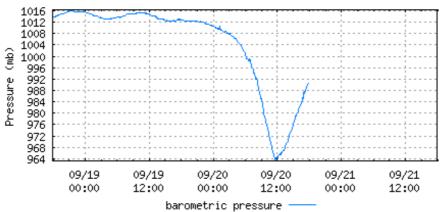
gusts

- direction

speed -

NOAA/NOS/CO-OPS 9757809 Arecibo, PR

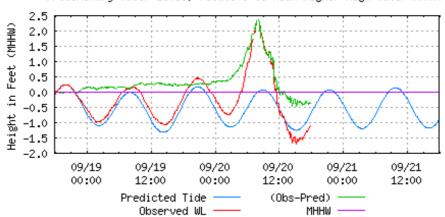
Barometric Pressure



Last Observed Sample: 09/20/2017 17:48 (AST)
Barometric Pressure: 990.4 mb

NOAA/NOS/CO-OPS 9755371 San Juan, La Puntilla, San Juan Bay, PR

Preliminary Water Level, relative to Mean Higher High Water(MHHW)



Last Observed Sample: 09/20/2017 17:48 (AST). Data relative to MHHW Observed: -1.10 ft. Predicted: -0.73 ft. Residual: -0.37 ft. Historical Maximum Water Level: Sep 18 1989, 2.77 ft. Next High Tide: 09/20/2017 21:22 (AST), 0.08 ft.

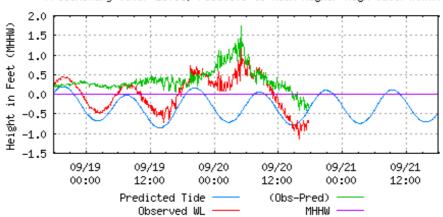
NOAA/NOS/CO-OPS 9755371 San Juan, La Puntilla, San Juan Bay, PR

Barometric Pressure 1016 1012 1008 1004 1000 996 992 Pressure 988 984 980 976 972 968 964 09/19 09/19 09/20 09/21 09/20 09/21 00:00 12:00 12:00 00:00 12:00 00:00 barometric pressure

Last Observed Sample: 09/20/2017 17:48 (AST)
Barometric Pressure: 998.8 mb

NOAA/NOS/CO-OPS 9752235 Culebra, PR

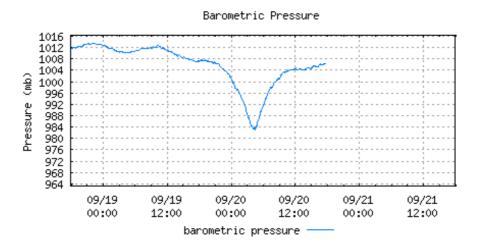
Preliminary Water Level, relative to Mean Higher High Water(MHHW)



Last Observed Sample: 09/20/2017 17:42 (AST). Data relative to MHHW Observed: -0.71 ft. Predicted: -0.38 ft. Residual: -0.33 ft. Historical Maximum Water Level: Nov 6 2006, 0.84 ft.

Next High Tide: 09/20/2017 20:55 (AST), 0.10 ft.

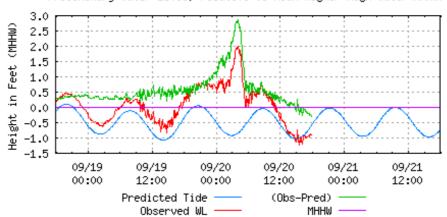
NOAA/NOS/CO-OPS 9752235 Culebra, PR



Last Observed Sample: 09/20/2017 17:42 (AST)
Barometric Pressure: 1006.4 mb

NOAA/NOS/CO-OPS 9752619 Isabel Segunda, Viegues Island, PR

Preliminary Water Level, relative to Mean Higher High Water(MHHW)



Last Observed Sample: 09/20/2017 17:48 (AST). Data relative to MHHW Observed: -0.90 ft. Predicted: -0.60 ft. Residual: -0.30 ft.

Historical Maximum Water Level: n/a Next High Tide: 09/20/2017 21:12 (AST), -0.02 ft.

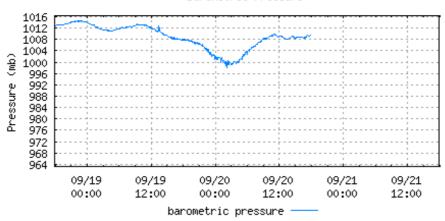
NOAA/NOS/CO-OPS 9751381 Lameshur Bay, St John, VI

Preliminary Water Level, relative to Mean Higher High Water(MHHW) 1.5 Height in Feet (MHHW) 1.0 0.5 0.0 -0.5 -1.0 09/19 09/19 09/20 09/20 09/21 09/21 00:00 12:00 12:00 12:00 00:00 00:00 Predicted Tide (Obs-Pred) Observed WL

Last Observed Sample: 09/20/2017 17:48 (AST). Data relative to MHHW Observed: -0.60 ft. Predicted: -0.23 ft. Residual: -0.37 ft. Historical Maximum Water Level: Aug 30 2010, 0.89 ft. Next High Tide: 09/20/2017 21:05 (AST), 0.00 ft.

NOAA/NOS/CO-OPS 9751381 Lameshur Bay, St John, VI

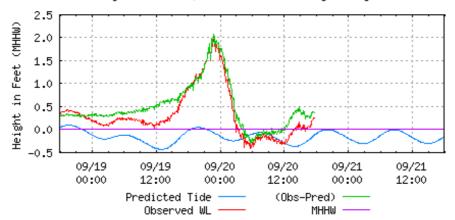
Barometric Pressure



Last Observed Sample: 09/20/2017 17:48 (AST)
Barometric Pressure: 1009.6 mb

NOAA/NOS/CO-OPS 9751364 Christiansted Harbor, St Croix, VI

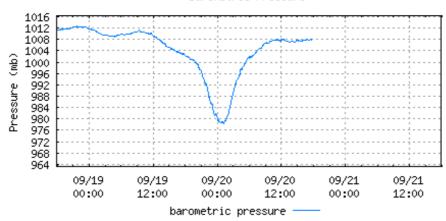
Preliminary Water Level, relative to Mean Higher High Water(MHHW)



Last Observed Sample: 09/20/2017 17:42 (AST). Data relative to MHHW Observed: 0.26 ft. Predicted: -0.11 ft. Residual: 0.37 ft. Historical Maximum Water Level: Oct 16 2008, 1.17 ft. Next High Tide: 09/20/2017 20:01 (AST), -0.00 ft.

NOAA/NOS/CO-OPS 9751364 Christiansted Harbor, St Croix, VI

Barometric Pressure



Last Observed Sample: 09/20/2017 17:42 (AST)

Barometric Pressure: 1008.0 mb

Latest Water Level Observations on MHHW

Station ID	Station Name	Date/Time	Observed Water Level	Predicted Tide	Residual Water Level	24 Hour Maximum Storm Tide
9759938	Mona Island, PR	09/20/2017 17:48 (AST)	1.50 ft	-0.25 ft	1.75 ft	1.72 ft
9754228	Yabucoa Harbor, PR	09/20/2017 17:48 (AST)	0.70 ft	-0.17 ft	0.87 ft	5.27 ft
9757809	Arecibo, PR	09/20/2017 17:48 (AST)	-0.26 ft	-0.74 ft	0.48 ft	1.68 ft
9755371	San Juan, La Puntilla, San Juan Bay, PR	09/20/2017 17:48 (AST)	-1.10 ft	-0.73 ft	-0.37 ft	2.38 ft
9752235	Culebra, PR	09/20/2017 17:42 (AST)	-0.71 ft	-0.38 ft	-0.33 ft	1.29 ft
9752619	Isabel Segunda, Vieques Island, PR	09/20/2017 17:48 (AST)	-0.90 ft	-0.60 ft	-0.30 ft	2.01 ft
9751381	Lameshur Bay, St John, VI	09/20/2017 17:48 (AST)	-0.60 ft	-0.23 ft	-0.37 ft	1.16 ft
9751364	Christiansted Harbor, St Croix, VI	09/20/2017 17:42 (AST)	0.26 ft	-0.11 ft	0.37 ft	2.00 ft

Center for Operational Oceanographic Products & Services (CO-OPS) | National Ocean Service (NOS) National Oceanic and Atmospheric Administration | U.S. Department of Commerce